ORAL CONTRIBUTIONS

837 Heart Failure: Insights on Survival

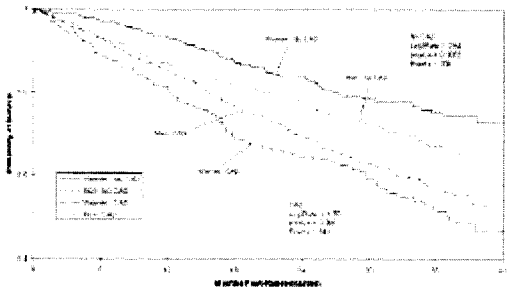
Tuesday, April 01, 2003, 8:30 a.m.-10:00 a.m.
McCormick Place, Room S401

8:30 a.m.

837-1 Influence of Etiology on the Survival Advantage of Women With Advanced Heart Failure

Jalal K. Ghali, Heidi J. Krause-Steinrauf, Kirkwood F. Adams, Jr., Steven S. Khan, Yves D. Rosenberg, Clyde W. Yancy, James B. Young, Steven Goldman, Mary A. Peberdy, JoAnn Lindenfeld, Cardiac Centers of Louisiana, Shreveport, LA

Background: The survival advantage for women with heart failure (HF) and impaired left ventricular ejection fraction (LVEF) has been reported in some but not all studies to be confined to patients with non-ischemic etiology. **Methods:** The impact of etiology on survival by gender was assessed in the Beta-Blocker Evaluation of Survival Trial (BEST) which randomized 2708 HF patients with NYHA class III/IV and LVEF ≤ 0.35 to bucindolol vs placebo. All women (n = 593) were compared to non-Veteran's Administration Hospital men (n = 1218). Mean duration of follow-up was 2.0 years. **Results:** A multivariate model comparing survival of females to males and adjusting for variables affecting prognosis including age, systolic blood pressure, LVEF, diabetes, creatinine, NYHA class, ethnicity, gender and etiology indicates that gender is a significant predictor of outcome (p = 0.0039). There was a significant coronary artery disease (CAD) by gender interaction (p = 0.0054). The effect of gender on survival was modified by etiology (ischemic vs non-ischemic). In the ischemic group there was a trend for a better survival in men (p = 0.088). However, in the non-ischemic group women had a better survival than men (p = 0.0083). **Conclusion:** The survival advantage of women in BEST was confined to patients with non-ischemic etiology. Designing future survival HF trials should include stratification by gender and etiology.



8:45 a.m.

837-2 The Association of the Heart Failure Score With Mortality and Hospitalizations in Pacemaker Patients

Eldrin F. Lewis, Marc A. Pfeffer, Anne S. Hellkamp, Arnold J. Greenspon, Christian Machado, Steven Singh, John H. McAnulty, Eleanor Schron, Kerry L. Lee, Gervasio A. Lamas, Brigham & Women's Hospital, Boston, MA, Mount Sinai Medical Center, Miami, FL

Background: Patients (pt) with decompensated heart failure (HF) are increasingly being managed as outpatients. Therefore, hospitalization for HF may not be a sensitive assessment of pt limitations due to HF. The objective of this study was to validate the Heart Failure Score (HFS) as an outpatient HF tool.
Methods: Pts enrolled in the **M**ode **S**election **T**rial (MOST) in Sinus Node Dysfunction were assessed at 1, 3, 6, and 12 months post-pacer implantation using the HFS. HFS has 4 ordinal subscales assessing: HF symptoms, physical signs of left and right HF, and therapy changes for HF. HFS was summed at each visit (ranging from 0 to 14) with lower scores representing less HF. Pts who survived AND were not hospitalized for HF the 1st year (n=1184) were evaluated (3 year mean follow-up).
Results: Pts [median age 74 (68, 79), 53% male, 61% hypertension, 19% diabetes, 21% prior myocardial infarction] had a median HFS of 4 (25th, 75th 1,8) at 1 year. Pts with a HFS ≥ 4 were more likely to die compared to pts with HFS of 0 (15.0% versus 4.7%, p=0.0001). Each 1-point increase in HFS was associated with a subsequent increased risk of death (Hazard Ratio 1.10, 95% CI 1.07-1.12, p=0.0001) and an 11% higher risk of future HF hospitalization (p=0.0001). The relationship between HFS and outcomes was similar regardless of pacing mode.
Conclusion: Increasing HFS is associated with an increased risk of mortality and future hospitalization for HF in pts that survive one year after receiving pacemakers. HFS may be a useful HF endpoint for clinical trials.

Cumulative Heart Failure Score	Number	Percent	Mortality Rate	Heart Failure Hospitalization
0	233	20%	11 (5%)	7 (3%)
1-3	323	27%	25 (8%)	13 (4%)
4-8	393	33%	50 (13%)	26 (7%)
≥9	235	20%	44 (19%)	24 (10%)

9:00 a.m.

837-3 Physician Specialty and Survival Following Hospitalization for Heart Failure

JoAnne M. Foody, Saif S. Rathore, Yongfei Wang, Jeph Herrin, Frederick A. Masoudi, Edward P. Havranek, Martha J. Radford, Diana L. Ordin, Harlan M. Krumholz, for The Center for Medicare & Medicaid Services National Heart Care Project, Yale University School of Medicine, New Haven, CT, Colorado Foundation for Medical Care, Denver, CO

Background: Specialty care may improve outcomes across a range of cardiovascular conditions including myocardial infarction, and unstable angina. Whether cardiologist, internist or family/general practitioner care is associated with improved survival in heart failure remains to be determined.
Methods: We sought to determine whether physician specialty is associated with 30-day or 1-year mortality in a nationwide sample of 25,869 Medicare beneficiaries aged 65 years or older hospitalized with a primary discharge diagnosis of heart failure between April 1998 and March 1999. Weighted hierarchical logistic regression model was employed to evaluate the independent effect of physician specialty on 30-day mortality and 1-year mortality.
Results: Significant differences in patient characteristics and quality of care existed among patients cared by different physician specialty. Patients treated by cardiologists had lower crude 30-day (cardiologists: 8.8%, internists: 9.0%, family/general practitioners: 11.9%; P<0.001) and 1-year mortality rates (cardiologists: 34.8%, internists: 40.1%, and family/general practitioners: 39.8%; P <0.001). Although patients treated by internists had similar adjusted mortality risks as patients treated by cardiologists at 30-days (OR 0.93 (95 percent confidence interval, 0.81 to 1.06)), adjusted survival rates were worse at 1 year (OR 1.22, 95 percent confidence interval, 1.14 to 1.32). Patients cared for by general/family practitioners were at higher risk of mortality than patients cared for by cardiologists at 30 days (OR 1.31, 95 percent confidence interval, 1.14 to 1.52) and one-year 1.30 (95 percent confidence interval, 1.19 to 1.42).
Conclusions: Heart failure patients cared for by cardiologists had improved long-term mortality compared with those cared for by internists, family practitioners, or general practitioners. Differences in patient characteristics or quality indicators do not account for these differences in mortality. Further studies are required to identify unique aspects of specialty care that lead to improved long-term clinical outcomes in older patients with heart failure.

9:15 a.m.

837-4 Racial Differences in Mortality Among Elderly Patients Hospitalized With Heart Failure

Saif S. Rathore, JoAnne M. Foody, Yongfei Wang, Grace L. Smith, Jeph Herrin, Frederick A. Masoudi, Diana L. Ordin, Edward L. Havranek, Harlan M. Krumholz, Yale University School of Medicine, New Haven, CT, Colorado Foundation for Medical Care, Aurora, CO

Background: Previous studies have reported conflicting findings concerning the association of race and outcomes after hospitalization for heart failure (HF). We sought to determine whether racial differences in survival exist in a contemporary national cohort of community-based, insured, elderly patients hospitalized for HF and if racial differences were independent of patient, physician, and hospital factors.
Methods: We evaluated racial differences in mortality after HF hospitalization using patients drawn from the National Heart Failure Project, a Centers for Medicare & Medicaid Services study of Medicare beneficiaries hospitalized with a primary discharge diagnosis of HF between 4/1998 and 3/1999. Black and white patients age ≥65 years who presented with HF by means of direct admission (n=29,732), were evaluated for mortality within 30 days and one year after admission. Multivariable hierarchical logistic regression was conducted to assess the independent association of race with mortality adjusting for patient sex, age, medical history, left ventricular ejection fraction, admission characteristics, attending physician, and hospital characteristics.
Results: Black patients had lower crude 30-day (6.3% vs. 10.7% white, P<0.001) and one-year mortality rates (31.5% vs. 40.1% white, P<0.001) than white patients. After multivariable adjustment, black patients had lower mortality risks than white patients 30 days after admission (black/white risk ratio [RR] 0.82, 95% confidence interval [CI] 0.71 to 0.94). Black patients had a lower mortality risk one year after admission (black/white RR 0.88, 95% CI 0.82 to 0.94), although the effect of race varied by hospital (P<0.001 for 'random' race effect).
Conclusion: Contrary to prior reports, black Medicare patients had lower crude mortality rates up to one year after hospitalization for HF than white patients. Patient race was not associated with mortality after multivariable adjustment for patient, physician, and hospital characteristics in a national cohort of elderly Medicare patients, although the effect of race varied by hospital.